

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SF5321	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/35933	International filing date (day/month/year) 12 November 2003 (12.11.2003)	Priority date (day/month/year) 12 November 2002 (12.11.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): A23B 4/14; A23B 4/20 and US Cl.: 426/335, 615, 641, 643		
Applicant NOLEN, GARY		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 9 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 10 June 2004 (10.06.2004)	Date of completion of this report 29 September 2005 (29.09.2005)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Helen F. Pratt  Telephone No. 571-272-1201

Form PCT/IPEA/409 (cover sheet)(July 1998)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## I. Basis of the report

## 1. With regard to the elements of the international application:\*



the international application as originally filed.



the description:

pages 1-16 as originally filed

pages none, filed with the demand

pages NONE, filed with the letter of \_\_\_\_\_.



the claims:

pages none, as originally filed

pages NONE, as amended (together with any statement) under Article 19

pages NONE, filed with the demand

pages 17-21A, filed with the letter of 17 December 2004 (17.12.2004).



the drawings:

pages 1-3, as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of \_\_\_\_\_.



the sequence listing part of the description:

pages NONE, as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:



the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).



the language of publication of the international application (under Rule 48.3(b)).



the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:



contained in the international application in printed form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

the description, pages none



the claims, Nos. none



the drawings, sheets/fig none

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.  
☒ paid additional fees.  
☐ paid additional fees under protest.  
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention is accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.  
☒ not complied with for the following reasons:

Please See Continuation Sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.  
☐ the parts relating to claims Nos. \_\_\_\_\_

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## V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. STATEMENT

Novelty (N)	Claims <u>1-34</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-34</u>	NO
Industrial Applicability (IA)	Claims <u>1-34</u>	YES
	Claims <u>NONE</u>	NO

### 2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

No basis is seen in the specification for the limitation "a first counter component" as in claims 20-22.

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**IV. 3. This Authority considers that the requirement of unity of invention is accordance with Rules 13.1, 13.2 and 13.3 is not complied with for the following reasons:**

Group I, claim(s) 1-7, drawn to a method of applying a composition to a workpiece.

Group II, claim(s) 8-15, drawn to an apparatus that contains various apparatus for applying a composition to a product.

Group III, claim(s) 16-20, drawn to a method of conveying a plurality of workpieces.

Group IV, claim(s) 21-23, drawn to an apparatus which requires a rigid member with a plurality of openings.

Group V, claim(s) 24-31, drawn to a method which requires particular antimicrobial compounds.

The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I, claims 1-7 are to applying a composition to a workpiece, diverting a portion of the composition and diluting the diverted composition, determining a concentration of the first component and adding an additional amount of the first component.

Group II, claims 8-15 are to a combination that contains various apparatus for applying a composition to a product. The method of Group II does not require the same technical features because they are to particular apparatus such as a sprayers and conduits and spectrophotometers which are not required for the first method.

Group III, claims 16-20 is to a method of conveying which lacks the same or corresponding special technical feature of the method of group I which requires no conveying, or the particular apparatus of Group II which requires an apparatus.

Group IV, claims 21-23 is to an apparatus further requiring a rigid member with a plurality of openings which is not the same technical feature required for the previous groups.

Group V, claims 24-31 further requires particular antimicrobial compounds not required by the previous groups and therefore the previous groupings lack the same corresponding technical feature.

**V. 2. Citations and Explanations:**

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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(To be used when the space in any of the preceding boxes is not sufficient)

Claims 1-7 lack an inventive step under PCT Article 33(3) as being obvious over Nafisi-Movaghar (4,996,070).

Nafisi-Movaghar discloses a composition containing two components which are applied to a workpiece, i. e. a fruit, by infusion, the solution is recovered (diverted) and the solution is analyzed for the content of desired components, and the deficient components are replaced to fortify the solution (col. 10, lines 24-39). The solution is seen to have been diluted because in any infusion process, water is replaced by the infusing solution due to the difference in concentration (col. 10, lines 15-18). Claim 1 differs from the reference in the step of determining the concentration of the composition and in adding additional components to achieve a desired value. However, the reference discloses that the "spent solution is analyzed for the content of the desired components" and deficient components replaced to fortify the solution. Sugar is added in the fortifying solution (col. 10, lines 34-39, col. 11, lines 34-70 and col. 12, lines 1-20). Therefore, it would have been obvious to determine the concentration of the composition and to add additional components as shown by the reference to Nafisi-Movaghar.

Claim 2 further requires reapplying the composition to a second workpiece and claim 3 that it is an antimicrobial and claim 4 that the workpiece is a ready to cook food and claim 5 requires adding additional amounts of components to the solution. Reapplying the composition is disclosed in col. 12, lines 10-20 in that peaches were applied to the composition (col. 12, lines 10-20). Antimicrobials such as sodium benzoate are applied as in claim 3 and fruit can certainly be cooked as in claim 4 (col. 12, lines 4-20). The reference discloses adding additional amounts of ingredients if the solution is depleted (abstract). Therefore, it would have been obvious to treat the workpiece as claimed.

Claim 6 further requires using tanks and passing the diluted composition to a first tank and then passing a portion of the contents through a separator to remove a portion of the first component and claim 7 requires passing a portion to a first tank. Tanks are disclosed by the reference. The solution can be filtered to remove solids (col. 10, lines 5-15). Passing a portion of the composition to a first tank is seen as being within the skill of the ordinary worker depending on what further treatment is required. Therefore, it would have been obvious to use tanks in the process and to separate out portions of the solution and to pass parts of the composition to particular tanks.

Claims 8-15 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Bowden (5,421,883).

Bowden disclose a housing, with sprayer, rinse tanks, and other chemical tanks (col. 3, lines 5-10 and Drawing 1 and col. 7, lines 3-20). Tanks are disclosed which collect the chemical rust inhibiting agent and a rinse tank is disclosed (81 and 75). Certainly, these tanks could have been used to contain the first and second compositions, as only the apparatus needs to be shown in an apparatus claim, and the composition of the ingredients used is not given weight. Means for passing the compositions from the tanks is disclosed by the use of a collection tray for the rinse water or the rust inhibitor (col. 3, lines 14-21). Sensors are provided to monitor the level of wash and rinse liquid, which are automatically supplied as in the last step of claim 8 (Col. 3, lines 25-30). Therefore, it would have been obvious to provide the apparatus as claimed using the composition of Nafisi-Movaghar.

Claim 8 has been amended to require that a conveyor is passing through the housing carrying poultry. However, nothing new is seen in the use of conveyors which are extremely well known in carrying items to be treated. Therefore, it would have been obvious to use conveyors for their known functions.

Claim 9 further requires a 3rd conduit between the second tank and housing. Bowden discloses conduits, filters and pumps of rinse water (col. 7, lines 28-46).

The detergent content of the rinse liquid is checked and has means to detect an increase in concentration. Certainly, if means are provided to detect a higher concentration, then means can be provided to detect a decrease in the concentration as in claim 10. Also, it would have been obvious to provide means for detection of concentrations as shown by the reference in any of the tanks as in claim 11 as it is known to find such in one tank. Therefore, it would have been obvious to use conduits and means of detection in the process of the combined references as disclosed.

Claim 12 further requires the use of a spectrophotometer. However, nothing new is seen in using known sensors for their known function in the claimed process. Therefore, it would have been obvious to use a spectrophotometer in the process of the combined references.

Claim 13 further requires the use of an antimicrobial in the tanks. Antimicrobials are disclosed in Nafisi-Movaghar (col. 11, lines 45-55) and the use of filters between the tank and pump. As filters are well known, it would have been obvious to place them at strategic spots. The new limitations for claim 13 have been disclosed above and are obvious for those reasons. Therefore, it would have been obvious to use antimicrobials in the process of the combined references and to place filters where needed.

The limitations of claims 14 and 15 have been disclosed above and are obvious for those reasons.

Claims 16-23 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Fricker et al. (6,126,810).

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(To be used when the space in any of the preceding boxes is not sufficient)

Claim 16 further requires a conveyor to move the workpieces and removing the antimicrobial from the first composition. However, the claims only require the use of a carbon filter "for selectively removing the antimicrobial from the first composition". As a carbon filter is used in Nafisi-Movaghar, it is seen that the antimicrobial is also removed as the claimed type of filter is disclosed by the reference (col. 10, lines 30-37). Fricker discloses transporting items to be sterilized or disinfected and dipping the items. However, transporting is commonly done using conveyers and spraying is a known alternative to dipping. Antimicrobials have been disclosed as above. Claim 16 further requires removing the antimicrobial from the first composition. Fricker discloses a recirculation system which returns the antimicrobial solution, which has been depleted (abstract). This connotes that the antimicrobial has been removed from the solution. Therefore, it would have been obvious to use conveyors for transporting and to use spraying instead of dipping in the process of the combined references and to remove antimicrobials from solution.

Claim 17 further requires that when the composition reaches a desired level in the tank that the composition is passed through a carbon filter. However, as above Nafisi-Movaghar discloses the use of activated and recycling the components. Nothing new is seen in choosing to treat the composition because it reaches a certain level in the tank which is seen as being within the skill of the ordinary worker. Certainly, solutions have to be treated when they are spent, and it would have been obvious to remove them as disclosed by the reference. Therefore, it would have been obvious to remove a spent solution at a particular point in the process and to treat with a carbon filter as disclosed by Nafisi-Movaghar.

Claim 18 further requires passing the composition through a filter for removing the antimicrobial. Bowden discloses the use of a filter to remove particles from the wash solution (col. 10, lines 31-39). Certainly antimicrobials can be in particle form. Therefore, it would have been obvious to remove antimicrobials from a composition using a filter as shown by Bowden in the process of the combined references.

Claim 19 further requires that the workpieces can be fruits which have been disclosed by Nafisi-Movaghar. Therefore, it would have been obvious to treat fruits as claimed.

Claim 20 further requires monitoring the composition for a decrease in concentration of the antimicrobial and then adding more of such if needed. Bowden discloses that monitors which maintain proper concentrations (abstract). Therefore, it would have been obvious to monitor the concentration of various ingredients as shown by Bowden.

Claim 21 further requires openings with sensors and lenses with seals. Bowden discloses the use of sensors in the wash tank (col. 8, lines 1-11). They are on rigid supports (120 of fig. 2). Nothing new is seen in providing seals over the openings to protect the sensors which would not operate correctly. The claims have been amended to require counters, which is different than sensors and were not examined in the Search report and no basis is seen for inserting counters which are a different apparatus for "sensors" which measure the concentration of antimicrobials in the water (page 9, line 20) and are therefore not given weight. Therefore, it would have been obvious to provide sensors and lenses.

Claims 22 and 23 further require placing sensors where they can perform their known function. It would have been obvious to place sensors where they can perform their known function.

Claims 24-31 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Christianson et al. (2002/0064585 A1).

Christianson et al. disclose providing a quaternary ammonium compound to the workpiece (claim 20 and 21). Certainly, it would have been within the skill of the ordinary worker to monitor the concentration of the ammonium compound to be sure that the right amount is applied, as filters and monitors have been disclosed above. Therefore, it would have been obvious to maintain the compound at desired levels.

Mists of fog are disclosed by Christianson et al. which in order to be a fog must contain water (page 3, and col. para. 0017) as in claims 25-26, 27. Therefore, it would have been obvious to add water, in any amount to make a fog as no particular amount is claimed.

Claims 27, 28, further require adding a solubility enhancing agent which can be propylene glycol to the composition. However, nothing new is seen in adding a known solubility enhancing agent to the claimed composition for its known function. Therefore, it would have been obvious to add such to the claimed composition.

The limitations of claims 29-34 have been discussed above except for the use of the ammonium compound and the particular use of poultry carcasses. However, as above it is known to use an ammonium compound for disinfecting. However, as in claim 18 poultry is equated with fruits and vegetables which have been shown above. Therefore, it would have been obvious to use such in the composition and process of the combined references.



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## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Claims 1-34 meet the requirements for industrial applicability as defined by PCT Article 33(4) in providing a method and apparatus to treat workpieces.

Claims 1-34 meet the criteria set out in PCT Article 33(2), because the prior art does not teach or fairly suggest the claimed invention in one reference.

## ARGUMENTS

Applicants' arguments have been considered but have not been found to be persuasive. Applicants argue as to Nafisi-Movaghar that his process does not divert the composition. However, the reference discloses that after the composition is applied to the workpiece it is filtered and supplemented with additional sweeteners which can be syrups thereby causing dilution of the original solution. In another embodiment the spent solution can be analyzed for the content of desired components, which are then replaced and the solution is recycled (col. 10, lines 5-39). Nothing new is seen in diverting a portion of the composition, which would have been within the skill of the ordinary worker. In the reference, the whole solution is treated, but applicant is diverting a portion. However, no particular amount is disclosed which could be almost the whole amount of the treating solution. Therefore, no patentable distinction is seen at this time in diverting a part of the solution and in treating the whole solution.

Applicants argue as to Bowden that the claims have been amended to require meat and poultry, etc. However, as it is known to use the claimed apparatus, it would have been obvious to convey any kind of workpiece through the system as the apparatus is the same.

Applicants argue as to claim 20 that counters have been substituted for sensors. However, this is changing the invention substantially, and this limitation will not be given weight, as it has not been previously searched nor is basis found for such a limitation in the specification.

Applicants argue as to claims 24-31 that these claims are to diverting the solution and then diluting it. However, as above, this limitation is seen as obvious, as the solution is still diluted with corn syrup.

## ----- NEW CITATIONS -----